

ELASTIC RETAINER STRAP

Field of the Invention

The invention relates to article carriers and holders; and more particularly relates to an
5 elastic strap for releasably attaching articles to a base support such as a vehicle sun visor.

Background

Often persons prefer to store loose articles in locations where the articles are safe and
out of the way. The storage of loose articles is particularly important in confined areas where
10 space is limited, such as in an automobile or other vehicle. For example, it is often desirable
for a person in a motor vehicle to stow the person's eyeglasses or sunglasses in a safe location
when the glasses are unused. Drivers and passengers in vehicles also prefer that stowed
eyeglasses or sunglasses are readily and easily accessible when such articles are needed.
Accessibility is particularly important to a driver of a vehicle who cannot safely divert his or
15 her attention away from driving the vehicle to locate and secure a pair of eyeglasses,
sunglasses, or another needed article.

Others have attempted to solve this problem by providing various receptacles,
overhead consoles, center consoles, door pockets, and the like as permanent features in motor
vehicle interiors. While some of these storage means provide effective storage for small
20 articles, such storage compartments cannot always be safely accessed by a vehicle operator
while the operator is driving. In addition, such storage features are not available in all
vehicles.

Others have attempted to solve this problem by providing after-market accessories for
attaching items to a vehicle's sun visor. Sun visors can be ideal storage locations for quick

and easy access because of their immediate proximity to a driver. Such after-market accessories include various types of pockets, cases, and clips for attaching articles to a sun visor. Unfortunately, many of these after-market devices are complicated in their construction and are therefore costly to produce and purchase.

5 Accordingly, there is a need for an apparatus that can be used to quickly and easily secure an article such as a pair of eyeglasses or sunglasses to a base object such as a vehicle sun visor. Such a device should also permit a secured article to be quickly and easily retrieved from the secured location. In addition, such a device should have a simple construction, and should be adaptable for use in most types of vehicles.

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Summary of the Invention

The invention includes a retainer strap for releasably attaching an article to a base object. The retainer strap may include a resilient band having a first face, a second face, a first end, a second end, a first connection point located between the first and second ends, and
15 a second connection point located between the first end and the first connection point. A first connector may be configured to releasably connect the first end of the band to the first connection point, thereby forming an adjustable elastic mounting loop suited for mounting the retainer strap on the base object. A second connector may be configured to releasably connect the second end of the band to the second connection point on the band, thereby
20 forming an open attachment loop for grasping an article. In such an embodiment, the second connector can be connected, disconnected, and reconnected for grasping or releasing the article without also disconnecting the first connector.

The invention also includes an apparatus for temporarily attaching an article to a vehicle sun visor. The apparatus may include an elastic mounting loop having an outer face
25 that is sized to securely fit around the sun visor. The apparatus may further include a band

that outwardly extends from the mounting loop and has a free end. A connector may be provided on the free end of the band. The connector may be configured to connect the free end to substantially any portion of the outer face of the mounting loop which the free end is capable of contacting.

5 The invention further includes a retainer apparatus that includes an elastic strap having a first end, a second end, an inner face, and an outer face. The outer face may be substantially covered with a plurality of connector loops. An end portion may be provided on the second end of the elastic strap. The end portion may have an inside face corresponding to the inner face of the elastic strap, and may include a plurality of connector hooks configured
10 to releasably connect to the connector loops. A strip of connector hook material may be affixed to the inside face of the elastic strap between the first and second ends of the elastic strap.

 The invention also includes a method of attaching an article to a base object. The method may include affixing a retaining device to the base object, the retaining device having
15 an adjustable and releasable elastic mounting loop for secure attachment around at least a portion of the base object. The retainer device may also include an attachment strap with an end that is releasably connectable to substantially any portion of the mounting loop. The method may further include positioning the article proximate to the retaining device, looping the attachment strap around at least a portion of the article, and connecting the end to a
20 selected portion of the mounting loop, thereby retaining the article on the base object.

 These and other aspects of the invention may be understood from a reading of the following detailed description together with the drawings.

Brief Description of the Drawings

Figure 1 is a perspective view of one embodiment of an elastic retainer strap mounted on a vehicle sun visor and retaining a pair of eyeglasses on the visor;

Figure 2 is a plan view of one side of a retainer strap like that shown in Figure 1;

5 Figure 3 is a plan view of the opposite side of the retainer strap shown in Figure 2;

Figure 4 is a cross sectional view of a retainer strap mounted on a sun visor with the free end of the attachment loop disconnected from the mounting loop; and

Figure 5 is a cross sectional view of a retainer strap mounted on a sun visor with the free end of the attachment loop connected to the mounting loop.

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Detailed Description

Figure 1 shows one embodiment of the invention. In Figure 1, a retainer strap 10 according to the invention is mounted on a base object 30. The shown base object 30 is a sun visor of a motor vehicle. The strap 10 also can be used to retain articles on many other types of base objects 30, but is particularly adapted for use on a vehicle sun visor as shown. The
15 strap 10 includes a mounting loop portion 13 that is looped around and secured on the visor 30. An attachment loop 14 extends outward from the mounting loop 13 and loops around at least a portion of a first article 50, thereby retaining the first article 50 on the visor 30 as shown. In Figure 1, the first article 50 is a pair of eyeglasses. A second article 60 (such as a
20 road map, vehicle registration card, business card, envelope, booklet, or the like) can be inserted between the mounting loop 13 and the visor 30 to retain the second article 60 on the visor.

In order that the retainer strap 10 can be affixed to sun visors or other objects having different circumferences or girths, the mounting loop 13 desirably is adjustable in size. In
25 addition, the mounting loop 13 desirably is highly elastic so that the mounting loop 13

resiliently grips the visor or other base object 30. In addition, the attachment loop 14 preferably is adjustable in size such that articles of varying sizes can be securely retained on the base object 30. In addition, the attachment loop 14 preferably is also highly elastic such that the attachment loop 14 resiliently grips a retained article.

5 Figure 2 shows a first side of one embodiment of a retainer device 10 according to the invention. In this embodiment, the device 10 includes an elongated strap or band 12. The band 12 is desirably constructed of a highly elastic, stretchable material. The band 12 includes a first end 16 and a second end 18. The second end 18 may comprise a tab portion 18a as shown. In this embodiment, the first side of strap 12 is substantially covered with a
10 mat of connector loops 15. As used herein, the term “loops” or “connector loops” is used to refer to the loop portions of a hook-and-loop fastener such as those sold under the Velcro® brand name.

 As shown in Figures 2 and 3, the retainer strap 10 includes a mounting loop portion 13 and an attachment loop portion 14. The mounting loop portion 13 includes a connector 11
15 that is affixed to the second side of the strap 12 (see Fig. 3) and extends to the first end 16 of the strap 10. The attachment loop portion 14 includes the balance of the strap 10 between the connector 11 and the second end of the strap 10, including the end tab 18a. The connector 11 preferably is a strip of connector material comprising a plurality of connector hooks. The
20 term “hooks” or “connector hooks” as used herein refers to hook portions of a hook-and-loop fastener such as those sold under the Velcro® brand name. The tab portion 18a also includes a plurality of connector hooks 19 as shown in Figure 3. In the embodiment shown, the band 12 may be constructed from a length of highly elastic, stretchable material such as is available under the Velstretch® brand name from Velcro®, USA. This material typically can be stretched to about 140 percent of its relaxed length. Velstretch® material, or its equivalent,

includes a mat of connector loops substantially covering one side of the ribbon-shaped material.

In this embodiment, the connector 11 and tab portion 18a may be constructed from a portion of connector hook material like that available under the Velcro® brand name. The tab portion 18a and connector strip 11 may be affixed to the band 12 by any suitable means such as a suitable adhesive. Desirably, the tab portion 18a and the connector strip 11 are thermally fused to the band 12 such as by ultrasonic welding or the like.

The retainer strap 10 may have any desired width, but is desirably from about 0.5 inch wide to about 2 inches wide. A narrower strap 10 is useful for retaining a small object such as a pair of eyeglasses on a base object. For example, it is desirable that the strap 10 have a width that is narrow enough to fit between the lenses and over the nosepiece of a pair of eyeglasses in order to securely retain the eyeglasses on a sun visor or the like. In addition, the retainer strap 10 may have any desired length. Desirably, a strap 10 for retaining articles on a sun visor has a free length of about 24-25 inches.

Figures 4 and 5 show a strap 10 like that shown in Figures 2 and 3 mounted on a base object 30. The base object 30 shown in Figures 4 and 5 is a sun visor, though the strap 10 can be mounted to other objects in a similar manner. As shown in Figure 4, the mounting loop portion 13 of strap 10 is looped around the base object 30 until the first end 16 of the strap 10 extends past the connector 11. The strap 10 is looped around the base object 30 such that the first side 15 of the strap 10 and the plurality of connector loops 15 on the strap 10 face outward. The mounting loop portion 13 may be sufficiently stretched such that the strap 10 is tightly and securely mounted on the base object 30. Once the mounting loop 13 is a desired size, the connector hooks on the connector 11 are pressed against the connector loops 15 on the first side of the band 12 to form a secure connection at point "b". The retainer strap 10 is thereby securely mounted on the base object 30.

As shown in Figure 4a, the attachment loop portion 14 of the retainer strap 10 outwardly extends from the mounting loop 13. Accordingly, the attachment loop portion 14 is free to be looped around an article that is to be retained by the strap 10 on the base object 30. Once an article has been so engaged by the attachment loop portion 14, the connector loops 19 on the tab portion 18a at the second end of the strap 10 is pressed against the connector loops 15 on the outer face of mounting loop portion 13 at a connection point "a". When the tab portion 18a is so connected to the mounting loop 13, the attachment loop portion 14 forms an open loop 20 as shown in Figure 5. The term "open loop" as used herein refers to a loop that substantially includes no physical obstruction that may prevent insertion of an object inside the loop. Because the tab portion 18a can be connected at any point on the mounting loop 13 that the tab portion 18a is capable of reaching, the open loop 20 is adjustable in size, and can accommodate articles of various sizes that are to be retained on the base object 30. In addition, because the attachment loop portion 14 is desirably constructed of an elastic material, the attachment loop portion 14 can be stretched such that an article is resiliently and firmly secured on the base object 30 by the loop 14.

The mounting loop 13 also provides an alternative means for retaining articles on the base object 30 without using the attachment loop 14. As shown in Figure 5, an article 60 such as a road map, vehicle registration card, business card, envelope, booklet, or the like can be inserted between the mounting loop 13 and the base object. The elastic property of the mounting loop 13 permits the article 60 to be resiliently and securely held in place on the base object 30. An article 60 may also be similarly retained between the mounting loop 13 and the base object 30 on the side of the base object 30 that is opposite from that shown in Figure 5.

As illustrated in Figures 1, 4 and 5, the invention also includes a method of attaching an article 50 to a base object. The method includes mounting a retaining device 10 to the base object 30, wherein the retaining device 10 includes an adjustable and releasable elastic

mounting loop 13 for secure attachment around at least a portion of the base object 30. The retaining device 10 further includes an attachment strap 14 with an end 18 that is releasably connectable to substantially any portion of the mounting loop 13 that the end 18 is capable of reaching. Once the device 10 is mounted on the base object 30, an article 50 is positioned proximate to the retaining device 10 (see Fig. 4), and the attachment strap 14 is looped around at least a portion of the article 50 (see Fig. 5). The end 18 of the attachment strap 14 is then connected to a selected portion of the mounting loop 13, thereby retaining the article 50 on the base object 30.

The above descriptions of various embodiments of the invention are provided for the purpose of illustration, and are not intended to limit the scope of the invention. Persons of ordinary skill in the art will recognize that certain modifications can be made to the described embodiments without departing from the invention. All such modifications are within the scope of the appended claims.